

- BEDSIDE MEDICINE FOR BEDSIDE DOCTORS -

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects and discussants invited. Useful extracts from letters will be published.

COMMON SENSE AND URINARY LITHIASIS

The Editor—The subject for this issue of *Bedside Medicine for the Bedside Doctor* was suggested by Edward S. Pomeroy who opens the discussion. It seems well to review occasionally our knowledge about some of the common and troublesome conditions which affect man's health adversely, materially influence morbidity statistics, and even contribute to mortality rates.

The standing army of "stone carriers" at any roll call would show numbers well up into the hundreds of thousands. These patients are still pestered and exploited by patent medicine fakers and cultists who "cure" by laying on of hands, punching a backbone, giving something to dissolve the stone or convincing the patient that the stone is a creature of the imagination. Uplifters and medical reformers usually let the subject severely alone and thereby show some intelligence.

Whatever the conditions that induce the beginning of stone, about which there are many and changing theories and much worthwhile but still inconclusive evidence, the fact is clear that once started, stones "grow" from the injudicious use of food and drink.

Physicians practicing in urban centers where there are plenty of fine complete hospitals and where specialists of a score or more classes are constantly available for consultation, often forget that nearly half of the general population, and a smaller percentage of doctors, are not so fortunately situated. There are some interesting stories here by physicians serving on the outposts. They tell quite frankly of their problems with one of the common ailments of mankind and how they handle them. All of which reminds me of my first contact with these problems as they appeared to me as a boy living in Opie Read's country. The family doctor had made a diagnosis of "obstruction of the bowel" in one of my boy friends. The weather was warm. A kitchen table was moved out under the shade of an elm. The doctor anesthetized the patient and then turned the sponge (literal) over to a "granny." He proceeded to open the abdomen and let out the pus (undoubtedly a ruptured appendix) and incidentally what looked to me like acres of intestines ballooned out of the opening and were caught in a washtub half filled with warm water. Then the abdomen was flushed with comfortably hot water and then came the real job of getting the intestines back into the abdomen. Finally this was accomplished, and by some chance the patient recovered.

Other suggestions for subjects for *Bedside Medicine* and names of additional discussants are invited. A postcard to the editor is sufficient.

Edward S. Pomeroy, M. D. (Judge Building, Salt Lake City)—Many theories have been evolved as to the etiology of stone formation in the urinary tract, and much experimental labor has endeavored to throw light on this subject, but we are still far from any sound conclusion.

However, various factors have been undoubtedly shown to have some bearing on this frequent and distressing accident in the chemistry or physics of the human body, and a brief résumé will recall that infection in some patients seems to be related to stone formation, and in others long and chronic infection does not prove to be of any such effect. Again, there are those in whom urinary stasis

from any cause seems to be in some way connected with lithiasis, and in others no matter how much nor how long the condition of stasis persists there is no stone production. Foreign bodies undoubtedly often constitute the beginning of calculi. Other theories have as their basis, heredity, diet, climate, presence or absence of certain colloids in the urine, etc., none of which has proved anything conclusively.

The one constant factor present in all urine, without which there can be no urinary lithiasis is the condition of saturation and often even supersaturation of the urine with the so-called urinary salts. Given the condition of supersaturation, it is easy to precipitate a few crystals which may act as a nidus, and given also any of the above abnormal conditions in the urinary tract, undoubtedly a stone may follow.

It is a common and prevailing habit of our people to gulp down a lot of water with meals, thereby diluting the digestive juices, and think they are drinking lots of water, whereas, to keep a safe dilution of the urinary salts, water should be taken at more frequent intervals throughout the day. This, together with less ingestion of concentrated foods, would undoubtedly go a long way in reducing the frequency of that distressing, painful, and serious condition—urinary lithiasis.

Walter G. Schulte, M. D. (Boston Building, Salt Lake City)—The diagnosis of urinary lithiasis is often difficult to make. Given a frank case with all the classical symptoms of a chronic cystitis, ammoniacal urine, dysuria, with perhaps a sudden interruption of the stream, frequency, urgency, hematuria, etc., and a diagnosis of cystolithiasis is seldom wrong, and can easily be confirmed with a small sound. With a finger in the rectum, or vagina, the stone may be felt through the posterior bladder wall. The picture may be very different with small urate stones. The urine is hazy and has a normal odor. There is apt to be a sudden interruption of the stream, and some terminal pain, but may lack frequency, dysuria and gross hematuria. If these symptoms follow shortly after a severe colicky pain in the back, radiating to the thighs and testes or labia, they are indicative of stone.

Severe colicky pains in the loin, with sudden onset, hematuria, normal temperature and severe prostration, naturally make us think of nephrolithiasis or ureterolithiasis. But all these symptoms merely signify interference with drainage of the kidney, and

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frequently obtained; yet, negative radiologic reports give due service in laying an accurate foundation for a correct diagnosis.

The old method of passing a small sound or "stone searcher" into the bladder in cases of suspected bladder stone is often of positive value and should be a routine procedure. Because of large rectal masses of fecal material, I have seen many large stones in the bladder overlooked in reading radiographs that were later positively diagnosed with a metal sound.

Beyond the procedures enumerated, when the diagnosis remains incomplete or obscure, it is wise to enlist the aid of one specially trained in the more intricate urologic problems and procedures, that the patient whose rights are paramount, shall not suffer delay in obtaining a proper diagnosis and effective treatment.

Warren Shepherd, M. D. (Templeton Building, Salt Lake City, Utah)—Calculi are agglomerations of crystals held together by a cement substance. The crystals are formed of salts normally found in the urine. Precipitation of these crystals in the urine occurs no doubt as a result of their presence in excessive quantities, or as a result of chemical changes, or possibly due to bacterial action.

In sections where "hard water" is drunk, the percentage of urinary calculi is high. This was noted many years ago in the "stone counties" of England. Several years ago I heard Ochsner say that in post-operative cases of urinary calculi he always advised the patient to drink distilled water and had never seen a recurrence as long as the patient drank only distilled water, but when the patient again drank hard water concretions began to form. Sudden change in urinary reaction will doubtless precipitate masses of crystals. What part bacteria play in this process is a subject for further investigation. The eating of highly concentrated foods without an abundance of water may cause excessive quantities of crystals in the urine. Also strenuous physical exertion with scanty intake of fluid causes excessive crystalline formation in the urine.

In the absence of more definite knowledge, common sense tells one to keep the urine from becoming over-saturated by watching color and specific gravity and to keep it slightly acid because this is the normal condition. It is well to bear in mind that much can be done to maintain a bacteria-free urine.

Homer E. Rich, M. D. (Vernal, Utah)—The chief reliance of the country practitioner must be upon "common sense," and thus, too often, his clinically diagnosed stone turns out to be ureteral stricture, discovered after he has referred his patient to a specialist. The country doctor learns from his

experience to separate other lesions from the urinary tract and after a few hypodermics have not been followed by disappearance of the symptoms, he gets the patient to one who has the training and the equipment to make a proper diagnosis. The emergency cases he can't transport he has to take care of as best he can, often with no trained help to assist him. I am speaking now from the experiences of a country doctor, who is associated with three others in a united effort to give the best service that they can give, 120 miles inland off any railroad, where high mountains make his community an island in the winter with no easy way out to consult specialists of any branch of medicine. How many surgeons nowadays can say they have opened an abdomen to let pus out from a ruptured appendix, under a pine tree up in the mountains with no one who ever saw an operation before, with no one to give an anesthetic or to render any other assistance, and to transport his patient as soon as possible to civilization! To take care of about 10,000 people without trained nurses or hospitals is a job. Four of us have got to use lots of "common sense" and some skill at the bedside. We have x-ray and clinical laboratories in our ten-room clinic in town and use an army stretcher across the back seat of a car to transport all possible patients in for better diagnosis. However, a lot of bedside advice, diagnosis and care have to be given to patients with "urinary lithiasis" away from contact with modern equipment. To differentiate a Dietl's crisis from a stone and invert the patient for proper support of the loose kidney, requires more common sense. In fact, I believe I may have jolted back into the kidney pelvis some stones that had tried to descend. I have known men and women to carry large bladder stones for years and stand the recurring attacks of cystitis and pyelitis without much complaint. Remote as we are—where so few are free from severe pyorrhea and where the purest of water is hard, one wonders what plays the biggest roles in the production of stones, the focal infection or the concentration. We see no pyorrhea or other focus of infection in animals, but we find a lot of kidney and bladder stones in the killed sheep, hogs and cattle.

To sum up, I would say:

1. That modern means to make a proper diagnosis can be utilized by the country doctor, often only under great difficulties.

2. That proper technique cannot be perfected without experience, and patients should be referred to the specialist wherever possible.

3. That the specialists to whom we have referred patients have been fair and square with us, for our patients have been sent home as soon as possible for the follow-up work, and generally return to us with a better feeling for the country doctor working under his obvious handicaps.

4. Better equipment and modern hospitals are needed in remote localities where it is difficult or impossible to transport patients to places where they exist. The doctor cannot buy the needed equipment and expect his patients, who only pay a minimum fee, to pay for it. More especially, trained men will remain in the country or go to it, if the people realize they have got to put expensive diag-

* **Homer E. Rich** (Vernal, Utah). M. D. University of Illinois, 1910. Graduate study: Intern Michael Reese Hospital, Chicago, 1910-11. Graduate work Chicago, three months, 1924. Practice: Medicine and Surgery. Previous service: Medical Corps United States Army, France, 1917-19. Regular army. Hospital connections: Chief of Staff, Vernal Hospital (under construction). Scientific organizations: Uintah County, Utah State, and American Medical Association. Appointments: Vice-President Utah State Medical Association. Other facts: Associated with three other physicians, 120 miles off any railroad, high mountains surrounding; we have to do almost all our work with 10,000 people. Publications: "Co-operation or Competition with the Country Doctor" (Northwest Medicine, February, 1923).

nosis material in municipally owned hospitals for the doctor's use.

George P. Cooper, M. D. (Angels Camp, California)—Common sense consideration of this frequent pathological condition leads one to realize how little is positively known of the origin of concretions in the urinary tract. The formation of a calculus presupposes the presence of a nidus around or upon which the urinary salts form. Infection, ascending from the urethra or bladder, is probably a prime factor in the formation of the nidus upon which the calculus is formed.

The symptoms present on the passage of a ureteral stone are frequently the first warning which the patient and attending physician have of the probable presence of nephrolithiasis; and the retention in the bladder of a passed ureteral calculus can form the nidus of the large cystic stone or stones so frequently found.

The differential diagnosis, ably set forth in Player's discussion, requires not only "common sense," but often clairvoyant sense to avoid error.

Cystoscopy, pyelography, x-ray localization and laboratory technic are necessary aids to exact diagnosis and treatment, and their co-relation to the presence and localization of urinary lithiasis can be mastered only through application to multiplicity of cases.

To the specialist who devotes his time and diagnostic acumen to this modern branch of the science of medicine, should be referred suspicious cases of urinary lithiasis, as by so doing the physician engaged in unlimited practice will best serve the interest of his patient suffering from this all too common and serious affliction.

J. D. Edmundson, M. D. (Hicks Building, Orland, California)—The cause of lithiasis is—I don't know and I don't know anyone who does know. There are a great many guesses called hypotheses, which are little better than idle opinions; none of them has been proved.

We should be like Job who said: "It is enough for me to know that my Redeemer liveth." It is enough for me to be able to recognize a concretion in the ureter or bladder, which is reasonably easy if you use common sense—and don't begin to think about a hospital and about getting some one to tell you what is the trouble with your patient.

If you find the patient able to pass only a few drops of urine at short intervals, walking the floor and swearing like a drunken sailor, you know you have a stricture, enlarged prostate, or stone in bladder, which you can soon settle.

On the other hand, if you find him as white as a ghost, rolling like a mule with the colic, praying like a deacon, you know he is passing a cobblestone from kidney to bladder.

Give him H. M. C. at once to relax muscles that the stone may pass, doing as little damage as possible. Give arbutin for three days. Resort to the knife if necessary.

* George P. Cooper (Angel's Camp, California). M. D. Cooper Medical College, 1906. Practice: General. Graduate study: St. Luke's Hospital, San Francisco, 1906-07. Hospital connections: St. Joseph's Hospital Staff, Stockton, California.

* J. D. Edmundson (Orland, California). M. D. Medical College, St. Louis, 1888.

CLINICAL NOTES, CASE REPORTS AND NEW INSTRUMENTS

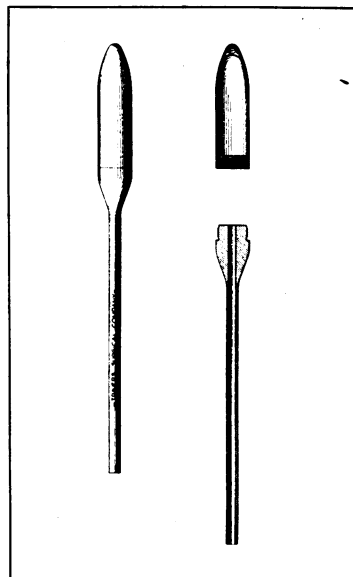
A NEW INSTRUMENT FOR RECTAL STRICTURE

By DUDLEY SMITH, San Francisco

In the Medical Record of March 4, 1922, E. Jay Clemons of Los Angeles describes a new method of treatment for rectal stricture by means of frigidotherapy, with which he has reported extraordinary results. He says:

"Conceiving the idea that cold applied to organized rectal stricture would cause relaxation, the author improvised the following means of application:

"Carbon dioxide snow is obtained by the usual procedure of allowing the gas to escape from a tank into a pocket of chamois. A rubber finger-cot is filled with snow thus obtained. A thread is tied around the free end of the finger-cot placed over the projection of a retaining catheter in such a manner as to allow the escape of gas



from the melting snow through the catheter. The catheter is inserted into a piece of rubber tubing, the diameter of which is such as can be inserted into a proctoscope, with the filled finger-cot projecting.

"The application is made by inserting the proctoscope, withdrawing the obturator, and plunging the filled finger-cot into the strictured area. The proctoscope can then be removed, leaving the rubber tube with the catheter in place, thus providing a means for the gas to escape."

The instrument illustrated herewith was devised to render the application of Clemons' method less difficult and more effective. It is a hollow metal instrument shaped like the ordinary rectal dilator, with a metal tube attached to serve as a handle for inserting the instrument and for the escape of the carbon dioxide gas. The tube is attached by a thread to which vaseline is applied before screwing it up. The vaseline is congealed by the cold and makes a tight joint, so that no gas escapes into the rectum. The instrument is made in four sizes, ranging from one-half inch to seven-eighths inch in diameter. When ready to use, it is lubricated with liquid petrolatum and inserted into the stricture, a size being used which may be inserted without pain. The instrument should not be used as a dilator.

The advantages of this instrument are:

1. The snow can be tamped in firmly, allowing much